

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Power Partners, Inc

#### Georgia Manufacturing Extension Partnership

#### Power Partners, Inc. Goes Lean, Green with Georgia Tech Assistance

##### Client Profile:

Power Partners, Inc., founded in 1958, manufactures pole-type distribution transformers that help bring electric power to homes and businesses throughout the world. The woman-owned company employs 380 people at its facility in Athens, Georgia.

##### Situation:

In 2007, Power Partners expanded its product line to manufacture solar water heater systems, which use solar energy to heat water and can provide up to 85 percent of the energy needed to produce domestic hot water. Systems are composed of solar thermal collectors, a fluid system that moves heat from the collector to the point of usage. According to commercial operations manager Scott Childs, Power Partners is initially marketing the systems to utility companies and dealers. "The solar water heater system is going to provide hot water mainly in the summer, when electricity is most valuable to a utility, and the system will use more electricity in the winter when there is excess electrical capacity," he noted. "We think that situation will marry well with our product, in addition to the utilities' increased focus on green." With all of the focus on manufacturing environmentally responsible products, Power Partners started to examine its own manufacturing processes. After working on projects in Lean manufacturing and quality standards with Georgia Tech's Enterprise Innovation Institute (EII), a NIST MEP network affiliate, Ford contacted the organization again to conduct an energy assessment.

##### Solution:

EII's project manager Bob Hitch evaluated Power Partners' process heating systems -- annealing, welding, drying and painting -- for potential energy-saving opportunities. As a result of the recommendations, Power Partners replaced its water-cooled bearings with high-temperature graphite bearings. Earlier assessment of the general facility energy usage by Hitch and the Power Partners engineers led to the update of lighting in the plant to T5 and T8 high-efficiency units, and replacement of outdated air compressors.

Power Partners also participated in a project for the Green Supplier Network, a partnership between the Environmental Protection Agency and MEP. "The primary objective of this three-day project was to identify opportunities for reductions of waste energy, material and inventories by creating a Value Stream Map (VSM), a diagram used to analyze the flow of materials and information required to bring a product to a consumer," recalled Hitch. "A team of key players was chosen, and this group was effective in seeing beyond the current processes by proposing a future state map that included some impressive gains in productivity, material usage and environmental reductions." The improvement ideas included operating the paint line during one shift only, creating a single point of contact for ordering tanks, rearranging the tank wall inventory to minimize travel, reconfiguring conveyors to improve material flow, minimizing repair stations by combining repairs where possible, and re-using the waste water from the paint area. However, Power Partners' Vice President for Technical Services, said that the most significant improvement was completing a 'green' VSM for all plant processes. "As

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part of Lean manufacturing, we were familiar with the value process map. But what we had not done was look at it in terms of the environment. That was the first time we had taken a process map of a section of the factory and done it in accordance to our waste streams," Stonecipher said. "Now when we do a process map, that's a standard part of it. From a Lean and practice standpoint, Lean green is a new tool that's been brought to the equation."

#### **Results:**

- \* Realized \$600,000 in cost savings.
- \* Reduced inventory by 34 percent.
- \* Reduced lead time from 17 days to less than a week.
- \* Reduced water usage by 10,000 gallons per day.

#### **Testimonial:**

"We are people who are continually looking for creativity and innovation, and doing things that are not business as usual."

Sherrie Ford, Chairman and Executive VP of Culture